

## SWIFTWATER/FLOOD SEARCH AND RESCUE TEAM

<b>DESCRIPTION</b>	The Swiftwater/Flood Search and Rescue (SAR) Team Conducts search, rescue, and recovery for humans and animals in swiftwater, swiftwater/flood, stillwater, and stillwater/flood environments.
<b>RESOURCE CATEGORY</b>	Search and Rescue
<b>RESOURCE KIND</b>	Team
<b>OVERALL FUNCTION</b>	<p>The Swiftwater/Flood SAR team:</p> <ol style="list-style-type: none"> <li>1. Searches for and rescues individuals who may be injured or in need of medical attention</li> <li>2. Provides emergency medical care including Basic Life Support (BLS)</li> <li>3. Transports humans and animals to the nearest location for secondary air or land transport</li> <li>4. Provides shore-based and boat-based water rescue</li> <li>5. Provides animal rescue</li> <li>6. Supports helicopter rescue operations and urban SAR in water environments</li> <li>7. Operates in environments with or without infrastructure, including those with compromised access to roadways, utilities, transportation, and medical facilities, and with limited availability of shelter, food, and water</li> </ol>
<b>COMPOSITION AND ORDERING SPECIFICATIONS</b>	<ol style="list-style-type: none"> <li>1. Discuss the following items prior to deployment: <ol style="list-style-type: none"> <li>a. Intra-team communications, such as programmable inter-operable communications with Command, General Staff, and other supporting resources</li> <li>b. Presence of contaminated environments and need for related personal protective equipment (PPE), respiratory protection, clothing, and equipment</li> <li>c. Security and force protection needed upon arrival</li> <li>d. Logistics support, such as lodging, transportation, and meals for sustained operations beyond 72 hours</li> </ol> </li> <li>2. This team works up to 12 hours per shift, is self-sustainable for 72 hours (beyond need for security and force protection), and is deployable for up to 14 days</li> <li>3. The requestor should specify the mission location and operational environment, such as shore, water or boat based, stillwater, swiftwater, or hazardous materials contamination</li> <li>4. The requestor should discuss any additional equipment (such as thermal imager, litter wheel, night vision goggles) and make arrangements with provider</li> <li>5. The requestor should specify the type of animal rescue, such as livestock and equine, companion, avian, non-domestic, and exotic animals</li> <li>6. The requestor should specify additional specialized equipment, such as hardware, software, ropes, and survivor evacuation devices</li> <li>7. The requestor should specify or separately acquire additional vehicles, trailers, equipment or supplies such as fuel</li> <li>8. Transport of rescued humans and animals is limited to water-based means, acquire secondary land or air transport of rescues separately</li> <li>9. Operations in SAR environments may be immediately dangerous to life and health (IDLH), per ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel. The requestor should consider the need for additional recognized capability or endorsements</li> </ol>

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

## Resource Typing Definition for Mass Search and Rescue Operations Search and Rescue

COMPONENT	TYPE 1	TYPE 2	TYPE 3	TYPE 4	NOTES
<b>CAPABILITY PER TEAM OPERATIONS</b>	Same as Type 2, PLUS: Capable of boat based support for helicopter water rescue operations in conjunction with NIMS typed SAR Aircraft - Helicopter/Rotor Wing	Same as Type 3, PLUS: 1. Performs technical rope rescue using technical rope systems to include high line 2. Performs medical care to include Advanced Life Support (ALS)	Same as Type 4, PLUS: 1. Operates in hazardous materials contaminated environments 2. Manages search operations 3. Performs medical care to include BLS 4. Performs low angle rope rescue	1. Performs Class 3 water operations, per American Whitewater (AW) Section VI Safety Code, specific to: a. Paddle and powerboat operations b. Offensive water rescue c. Flood response operations 2. Performs first aid to include cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) 3. Requests rope rescue and aviation resources as needed	Not Specified
<b>ENVIRONMENT PER MISSION MINIMUM</b>	Swiftwater/Flood	Swiftwater/Flood	Swiftwater/Flood	Stillwater/Flood	Not Specified
<b>EQUIPMENT PER RESCUE BOAT RECOVERY</b>	Same as Type 2	Same as Type 3	Same as Type 4	1 - Litter/Stokes basket or similar  1 - Adjustable bridle 1 - Patient harness system Animal restraint devices (such as handling equipment, prods, lead ropes, halters, collars, leashes)	Not Specified
<b>EQUIPMENT PER RESCUE BOAT WATER RESCUE</b>	Same as Type 2	Same as Type 3	Same as Type 4	3 - Throw bag 1 - Throwable flotation device (U.S. Coast Guard approved) Vessel support kit Paddles Swimmer rescue board	Not Specified
<b>EQUIPMENT PER TEAM DECONTAMINATION</b>	Same as Type 2	Same as Type 3	Same as Type 4	2 - 25 foot garden hose Garden hose wye valve Decontamination equipment kit: 2.5 gallon pressure sprayer 5 gallon bucket Soap and bleach solution 40 gallon plastic work box 110 volt submersible pump 110 volt power washer	Not Specified
<b>EQUIPMENT PER TEAM GAS DETECTION</b>	Same as Type 2	Multi-gas detector	Not Specified	Not Specified	Not Specified

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<b>EQUIPMENT PER TEAM GROUND TRANSPORTATION</b>	Same as Type 2	Same as Type 3, PLUS: 1. Vehicle capable of hauling a trailer with a rescue boat 2. Equipment trailer capable of carrying one rescue boat	Same as Type 4	1. Vehicle capable of hauling a trailer with a rescue boat 2. Equipment trailer capable of carrying one rescue boat	Not Specified
<b>EQUIPMENT PER TEAM MEMBER COMMUNICATIONS</b>	Same as Type 2	Same as Type 3	Same as Type 4	1. Two-way handheld radio 2. Mobile phone (waterproof) 3. Charger for devices 4. Marine band radio (portable/waterproof) 5. Portable radio with ground to air capability 6. Handheld Global Positioning System (GPS) unit	1. Intra-team and inter-team communications consistent with National Interoperability Field Operations Guide (NIFOG). 2. Consider alternate forms of communication, such as satellite phones, based on the mission assignment and team needs.
<b>EQUIPMENT PER TEAM MEMBER PPE</b>	Same as Type 2	Same as Type 3	Same as Type 4	1. Swiftwater/Flood SAR helmet 2. Headlamp and batteries 3. Eye and hearing protection 4. Breathing protection 5. Uniform/protective clothing 6. Gloves 7. Footwear 8. Dry suit 9. Personal Floatation Device (PFD) 10. Deployment/travel pack 11. Initial attack pack 12. Personal medical kit 13. Survival kit 14. Other necessary field packs or gear	1. The following standards address PPE: American National Standard Institute (ANSI) Z359: Fall Protection Code; National Fire Protection Association (NFPA) 1983: Standard on Life Safety Rope and Equipment for Emergency Services. 2. The following regulation addresses PPE: Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.146 Permit-Required Confined Spaces.
<b>EQUIPMENT PER TEAM RESCUE</b>	Same as Type 2	Same as Type 3	Same as Type 4	1 - Gasoline powered saw 1 - 200 foot rescue rope with bag  1 - Pole for reaching (pike or equivalent) 2 - Pulley 1 - Line gun/thrower Carabineers Hand tools assortment to include: Halligan bar, 8lb flathead axe, 10lb sledgehammer, hammers, drills, and saws Rope slings	Not Specified

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<b>EQUIPMENT PER TEAM RESCUE BOAT</b>	Same as Type 2	Same as Type 3, PLUS: Inflatable rescue boat, jon boat, PWC or dinghy appropriate for class of water equipped with supplies and fuel	Same as Type 4	Inflatable rescue boat, jon boat, powered watercraft (PWC) or dinghy appropriate for class of water equipped with supplies and fuel	Not Specified
<b>PERSONNEL PER TEAM MANAGEMENT AND OVERSIGHT</b>	2 - NIMS Type 1 Strike Team/Task Force Leader who are also qualified as a NIMS Type 1 Swiftwater/Flood SAR Leader	1 - NIMS Type 1 Strike Team/Task Force Leader who is also qualified as a NIMS Type 1 Swiftwater/Flood SAR Team Leader 1 - NIMS Type 1 Swiftwater/Flood SAR Team Leader	Same as Type 4	1 - National Incident Management System (NIMS) Type 1 Swiftwater/Flood SAR Team Leader	Not Specified
<b>PERSONNEL PER TEAM MINIMUM</b>	14	12	6	3	Not Specified
<b>PERSONNEL PER TEAM OPERATIONS AND SUPPORT</b>	4 - NIMS Type 1 Swiftwater/Flood SAR Technician - Boat Operator 4 - NIMS Type 1 Swiftwater/Flood SAR Boat Bowman 1 - NIMS Type 1 Swiftwater/Flood SAR Technician with the following skill set: Animal Rescue Specialist 1 - NIMS Type 1 Swiftwater/Flood SAR Technician with the following skill set: Logistics Specialist 1 - NIMS Type 1 Swiftwater/Flood SAR Technician with the following skill set: Communications 1 - NIMS Type 1 Swiftwater/Flood SAR Technician with the following skill set: NIMS Type 1 Paramedic	3 - NIMS Type 1 Swiftwater/Flood SAR Technician - Boat Operator 3 - NIMS Type 1 Swiftwater/Flood SAR Boat Bowman 1 - NIMS Type 1 Swiftwater/Flood SAR Technician - Logistics Specialist 1 - NIMS Type 1 Swiftwater/Flood SAR Technician with the following skill set: NIMS Type 1 Paramedic 2 - NIMS Type 1 Swiftwater/Flood SAR Technician with the following skill set: NIMS Type 1 EMT	2 - NIMS Type 1 Swiftwater/Flood SAR Technician - Boat Operator 2 - NIMS Type 1 Swiftwater/Flood SAR Boat Bowman 1 - NIMS Type 1 Swiftwater/Flood SAR Technician	1 - NIMS Type 1 Swiftwater/Flood SAR Technician - Boat Operator 1 - NIMS Type 1 Swiftwater/Flood SAR Technician - Boat Bowman	For Type 3, one team member should also hold a qualification as a NIMS Type 1 Emergency Medical Technician (EMT).

## NOTES

Nationally typed resources represent the minimum criteria for the associated component and capability.

## REFERENCES

1. FEMA, NIMS 509: Emergency Medical Technician
2. FEMA, NIMS 509: Paramedic
3. FEMA, NIMS 509: Swiftwater/Flood Search and Rescue Team Leader
4. FEMA, NIMS 509: Swiftwater/Flood Search and Rescue Technician
5. FEMA, NIMS 509: Swiftwater/Flood Search and Rescue Technician – Boat Operator
6. FEMA, NIMS 509: Swiftwater/Flood Search and Rescue Technician – Boat Bowman
7. FEMA, NIMS 509: Swiftwater/Flood Search and Rescue Technician – Animal Rescue Specialist
8. FEMA, NIMS 509: Swiftwater/Flood Search and Rescue Technician – Logistics Specialist
9. FEMA, NIMS 509: Swiftwater/Flood Search and Rescue Technician – Medical Specialist
10. FEMA, NIMS 508: Search and Rescue Aircraft – Helicopter / Rotary Wing
11. American National Standards Institute/American Society of Safety Engineers (ANSI/ASSE) Z359.1-2007 Safety Requirements for Personal Fall Arrest Systems, Subsystems & Components
12. ASTM International (ASTM) F2890-12: Standard Guide for Hazard Awareness for Search and Rescue Personnel, 2012
13. American Whitewater (AW), Safety Code of American Whitewater, 2005
14. National Search and Rescue Committee, Catastrophic Incident Search and Rescue (CISAR) Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual, v. 3, June 2012
15. National Fire Protection Association (NFPA) 1006: Standard for Technical Rescuer Professional Qualifications, 2013
16. NFPA 1670: Standard on Operations and Training for Technical Search and Rescue Incidents, 2014
17. NFPA 1983: Standard on Life Safety Rope and Equipment for Emergency Services, 2012
18. U.S. Department of Homeland Security, Office of Emergency Communications (OEC), National Interoperability Field Operations Guide (NIFOG), v. 1.5, January 2014
19. Occupational Health and Safety Administration (OSHA) 29 Code of Federal Regulations (CFR) Part 1910.120: Hazardous Waste Operations and Emergency Response, latest edition adopted
20. OSHA 29 CFR Part 1910.146: Permit-Required Confined Spaces, latest edition adopted
21. OSHA 29 CFR Part 1910.134: Respiratory Protection, latest edition adopted